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REMARKS

Applicants appreciate the thoroughness with which the Examiner has examined the patent application. Reconsideration is respectfully requested in view of the amendments above and the remarks below.

On a preliminary note, Applicants note that two references in a previously submitted IDS were not considered. Applicants have resubmitted the two references in an IDS filed concurrently with the present amendment.

Claims 21-24, 27, and 29-35 remain pending of which claim 32 is the only independent claim. Claims 21-23, and 30 have been amended to depend from independent claim 32, while claim 32 has been amended to incorporate most of the limitations in cancelled claim 20. Claim 32 does not include the limitation in cancelled claim 20 with regard to a second substantially planar layer having a substantially planar top surface, which the Examiner rejected as new matter. Claim 32 includes some limitations which claim 20 did not. For instance, claim 32 requires "an interface between said first and second layer being substantially planar," which finds support in at least Figure 3 of the specification as originally filed. In addition, claim 32 requires "the line having a height  $h_1$  less than the overall height of the second layer  $h_2$ " which finds support on at least page 8 of the specification as originally filed. No new matter has been added.

In response to the amendment filed May 4, 2005, Examiner stated that the previously added limitation to claim 20 overcame Venkatesan, however that upon closer inspection support for the added limitation could not be found. More specifically, the added limitation is "a second substantially planar layer having a substantially planar top surface," which the Examiner rejected under 35 U.S.C. §112, first paragraph. An explanation of the previously added limitation follows.

In the present invention, prior to the formation of the metal structure 30, the second layer 15 is substantially planar with a substantially planar top surface, as shown in Figure 2. Further, in the present invention, after formation of the metal structure 30, the topmost surface of the second layer 15 is substantially planar. Applicants appreciate, however, the Examiner's point that, after formation of the metal structure 30, sloped and horizontal surfaces are depicted in Figure 3. In an effort to obviate the Examiner's 35 U.S.C. §112, first paragraph, rejection, Applicants deleted the previously added

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limitation. Claim 32, which remains the only independent claim, does not require a substantially planar second layer 15 with a substantially planar top surface. Therefore, Applicant respectfully request withdrawal of the 35 U.S.C. §112, first paragraph, rejection.

Further, in an effort to maintain the withdrawal of the rejection of the claims as unpatentable over Venkatesan in view of Anand, Applicants amended the claims such that claim 32 requires “an interface between said first and second layer being substantially planar.” Prior to the formation of the metal structure 30, as shown in Figure 2, the interface between the second layer 15 and the first layer 10 is substantially planar. Similarly, after formation of the metal structure 30, as shown in Figure 3, the interface between the second layer 15 and the first layer 10 is substantially planar. By contrast, in Venkatesan the interface between the dielectric layer 23 and etched layer 22 is conformal. “FIG. 8 illustrates that a dielectric layer 23 is deposited over a contour of the etched layer 22 illustrated in FIG. 7.” (Venkatesan, col. 13, lines 33-34). For at least this reason, the claims as presently amended avoid Venkatesan. Further, Anand does not compensate for Venkatesan’s deficiencies. Therefore, in view of the present amendments to claim 32, Applicants respectfully submit that the withdrawal of the claim rejections as being unpatentable over Venkatesan in view of Anand be maintained.

Claims 20-22, 24, 29, and 31-35 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,976,972 to Inohara (“Inohara”). As currently claimed, claim 32 requires “the line having a height  $h_1$  less than the overall height of the second layer  $h_2$ . Inohara does not disclose a line having a height  $h_1$  less than the overall height of the second layer  $h_2$  as required by claim 32. The Examiner relies on the groove 45 in Inohara for a teaching of the claimed line and relies on the insulating film 45 in Inohara for a teaching of the claimed second layer. As shown in Figure 27 of Inohara, the height of the insulating film 45 varies, and more specifically, decreases over the stopper film 44. In Inohara, over the stopper film 44, the height of the groove 46 equals the height of the insulating film 45. In other words, in Inohara, over the stopper film, the height of the line equals the height of the second layer. Therefore, the height of the line is not less than the overall height of the second layer as required by claim 32. For at least this reason, Inohara does not anticipate the claimed invention. Further, Inohara also does not disclose

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that a middle portion of the via is in contact with the first layer as required by claim 30. For at least these reasons, Applicants respectfully request withdrawal of the 35 U.S.C. § 102(e) rejection against the claims as currently amended.

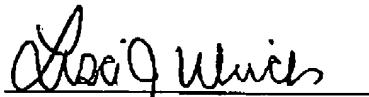
Applicants respectfully submit that claim 32 is allowable and claims 21-24, 27, 29-30, and 33-35 are similarly allowable by virtue of their dependence on an allowable base claim.

For the foregoing reasons, it is respectfully submitted that the present application is in condition for allowance.

Reconsideration and allowance of pending claims is respectfully requested.

Respectfully Submitted,

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